Lecture 23 Quiz

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1. **Define temporal locality and spatial locality.**

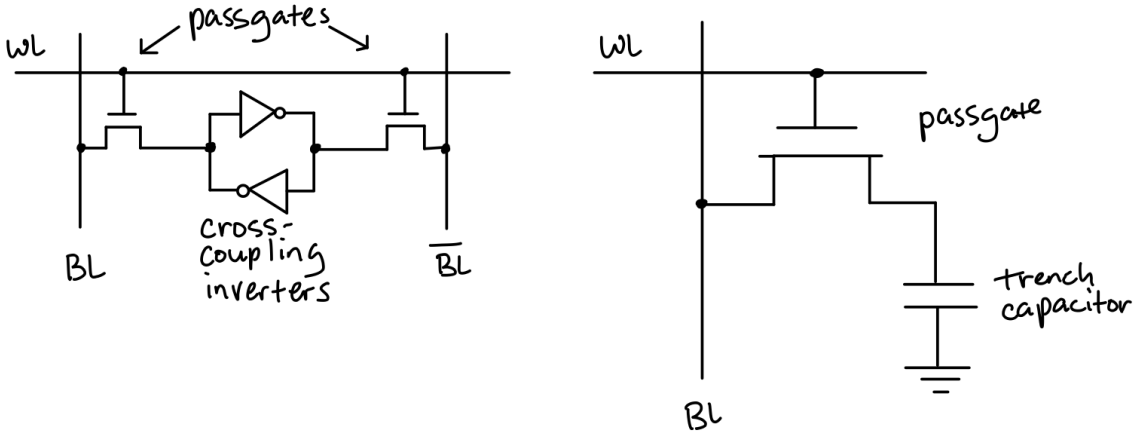
   Temporal locality deals with time and states that if a data location is referenced, there is a high likelihood that it will be referenced again.

   Spatial locality states that if a data location is referenced, there is a high likelihood that nearby locations will be referenced as well.

2. **Define a modified Harvard architecture.**

   A modified Harvard architecture is where we go from a split cache at level 1 to a unified cache at the next level. This contrasts with a complete Harvard architecture where at the programmer level you split your instructions and data into separate memories.

3. **Draw an SRAM cell and a DRAM cell.**



4. **Define cache hit and cache miss.**

   Cache hits are when the data being requested is in the level 1 cache. Cache misses happen when the data requested is not in the level 1 cache and the processor must wait for the data. Cache misses can be divided into compulsory (empty cache), capacity (cache size is too small), or conflict (cache is not fully associative).